WATER QUALITY
M E M O R A N D U M

Utah Coal Regulatory Program

July 11, 2005

TO: Internal File

THRU: Wayne Hedberg, Permit Supervisor

FROM: Steve Fluke, Reclamation Hydrogeologist

RE: 2004 Fourth Quarter Water Monitoring, Canyon Fuel Company, SUFCO Mine, C/041/0002-WQ04-4, Task ID #2087

1. Was data submitted for all required monitoring sites? YES [X] NO [ ]

The SUFCO Mine is currently operational. Water monitoring data is evaluated from the data that is submitted quarterly by the mine to the Division EDI database. The water monitoring program, field and laboratory measurement protocols, and groundwater and surface water operational water quality parameters are outlined in the mine's MRP in Tables 7-2, 7-3, 7-4, and 7-5, respectively. Quarterly groundwater monitoring for the SUFCO Mine is required for three quarters only (second, third, and fourth quarters). UPDES reporting requirements are presented in Appendix 7-7 of the MRP.

Additional water monitoring is being conducted as part of the East Fork of Box Canyon monitoring and mitigation plan outlined in Appendix 3-10 of the MRP. This monitoring data is being submitted and reviewed separately from the EDI database monitoring data, although there is some overlap.

Surface *Operational sampling is required quarterly for fifteen stream monitoring sites. Two stream monitoring sites (Pines 407 and 408) are equipped with pressure transducers because monthly monitoring is required July through October each year. Two stream monitoring sites (FP-1 and FP-2) require the identification of the perennial portion of stream on or near October 1 of each year. For Pines 407, Pines 408, FP-1, FP-2, USFS-109, and Pines 106, flow data, perennial stream flow maps, and the results of weather data/flow data comparison will be submitted with the fourth quarter monitoring report each year.*

All surface monitoring sites were sampled and data submitted for the 2004 fourth quarter monitoring. The stream monitoring requirements for FP-1 and FP-2 were prepared by Petersen Hydrologic and submitted by Chris Hansen via email to the Division (March 29, 2005). However, the weather data/flow data comparison required with the fourth quarter monitoring report was not submitted.

Groundwater and Wells *Operational sampling is required quarterly for seventeen spring monitoring sites and eleven groundwater monitoring well sites including the five waste rock disposal site (WRDS) wells. In addition, operational sampling is required yearly for two additional groundwater monitoring wells.*

All groundwater and well monitoring sites were sampled and data submitted for the 2004 fourth quarter monitoring. The two groundwater monitoring wells requiring yearly monitoring were sampled during the third quarter 2005 monitoring.

UPDES *Operational sampling is required monthly for three active UPDES sites (UT002198-001, -002, and -003A).*

All UPDES sites were sampled and data submitted for the 2004 fourth quarter monitoring.

2. Were all required parameters reported for each site? YES [ ] NO [X]

Surface All required parameters were reported except the weather data/flow data comparison required with the fourth quarter monitoring report was not submitted.

Groundwater and Wells All required parameters were reported.

UPDES All required parameters were reported.

3. Were any irregularities found in the data? YES [X] NO [ ]

Surface No irregularities were found in the data with the following exceptions:

Pines 106 – total iron concentration of 2.04 mg/L exceeds the Class 3A Cold Water Aquatic Wildlife standard of 1.0 mg/L.

Pines 403 – dissolved calcium concentration is above two standard deviations.

Pines 408 – low flow and conductivity reported above two standard deviations.

Groundwater and Wells No irregularities were found in the data with the following exception:

Pines 214 – TDS reported above two standard deviations.

UPDES No irregularities were found in the data.

4. On what date does the MRP require a five-year resampling of baseline water data?

The MRP does not require a five-year resampling of baseline water data.

5. Based on your review, what further actions, if any, do you recommend?

Surface Continue monitoring stream stations in the East Fork of Box Canyon for trends of diminished water quality and flow. The undermining of the stream had created fractures in the stream channel that interrupted surface flow until repairs were made in the fall of 2004. Flow has since resumed to historic flow amounts. Determine why the weather data/flow data comparison required with the fourth quarter monitoring report was not submitted.

Groundwater and Wells Continue monitoring springs in the East Fork of Box Canyon. Flow from Pines 214 has significantly diminished and two pairs of twin springs (EFB-12 and EFB-13) have ceased flowing based on additional monitoring data from the EFB monitoring and mitigation plan. These impacts are not unexpected, and the effects on natural habitat will be monitored to determine if mitigation is necessary.

UPDES No further action is recommended.

6. Does the Mine Operator need to submit more information to fulfill this quarter's monitoring requirements? YES [X] NO [ ]

Weather data/flow data comparison for Pines 407, Pines 408, FP-1, FP-2, USFS-109, and Pines 106 needs to be submitted.

7. Follow-up from last quarter, if necessary. Did the Mine Operator submit or provide an explanation for missing and/or irregular data?

No missing data from last quarter (2004 third quarter). Irregular data believed to be caused by the ongoing drought and the undermining of the East Fork of Box Canyon are still being assessed.